Day 158 **C Tier 10-a-day: Model Solutions**

1 Reflection on a grid

The point P is drawn on the grid.
P is reflected in the line x = 3.
Write down the coordinates of the image of P.

P is (2, 5)
P is 1 squares to the left of the line, so the image is 1 squares to the right
x-coordinate: 3 + 1 = 4
Answer: (4, 5)

2 Fractions of a shape

What fraction of the shape is shaded?

There are 5 equal parts
1 parts are shaded
Fraction shaded = $\frac{1}{5}$

Answer: $\frac{1}{5}$

3 Finish time

A swimming session starts at 11:25 am.
It lasts 1 hour 20 minutes.
At what time does it end?

Add the hours: 11:25 am + 1 hour = 12:25 pm
Add the minutes: 12:25 pm + 20 minutes = 12:45 pm
Answer: 12:45 pm

4 Distance from speed and time

A cyclist travels at 15 km/h for 6 hours.
How far does it travel?

Distance = speed × time
15 × 6 = 90
Answer: 90 km

5 Substitution

Work out the value of $\frac{z}{5}$ when z = 25.

$\frac{z}{5}$ means z ÷ 5
25 ÷ 5 = 5
Answer: 5

6 Probabilities add up to 1

A game uses a four-coloured spinner.
The table shows the probability of each colour.
The probabilities add up to 1.
Work out the missing probability.

Add the known probabilities: 0.3 + 0.1 + 0.25 = 0.65
1 − 0.65 = 0.35
Answer: 0.35

Day 158 **C Tier 10-a-day: Model Solutions**

7 Perimeter of an L-shape

The diagram shows an L-shape.
All the corners are right angles.
Work out the perimeter of the shape.
The diagram is not drawn accurately.

Find the two missing sides.
Missing horizontal side: 12 − 4 = 8
Missing vertical side: 7 − 4 = 3
Add all six sides: 12 + 4 + 8 + 3 + 4 + 7 = 38
Answer: 38 cm

8 Expected number

A spinner lands on blue with probability 0.1.
It is spun 50 times.
How many times would you expect it to land on blue?

Expected number = probability × number of trials
0.1 × 50 = 5
Answer: 5

9 Adding fractions

Work out $\frac{2}{11} - \frac{1}{11}$.

The denominators are the same, so subtract the numerators
2 − 1 = 1
Answer: $\mathbf{\frac{1}{11}}$

10 Coordinates

Here are three points.
(0, 7), (4, 0), (3, 6)
Which point lies on the x-axis?

A point on the x-axis has y-coordinate 0
Answer: (4, 0)